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EXAMINER

JARRETT, RYAN A

ART UNIT

PAPER NUMBER

2125

DATE MAILED: 09/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/743,206

Applicant(s)

CLAUSEN ET AL

Examiner

Ryan A. Jarrett

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 December 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-43 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-43 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 101

1. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

2. Claims 1-27 are rejected under 35 U.S.C. 101 because they are drawn to a methods which do not necessarily require computer implementation to accomplish, and therefore would not necessarily produce repeatable, concrete results. The "method" of claims 1 and 14 should be changed to "computer-implemented method" to overcome the 101 rejection.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 14-27, 29-35, and 38-43 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 14 recites, "calculating a change in length of the web material". It is not clear what the limitation "change" is in reference to. This limitation implies that a time frame exists in which the change takes place, but the claim makes no reference to a

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time frame. The features of claim 20 should be incorporated into claim 14 to overcome this 112 rejection.

Claims 15-27 depend from claim 14 and incorporate the same deficiencies.

Claim 29 recites "the tension zone" in line 3. There is insufficient antecedent basis for this limitation in the claim.

Claim 30 depends from claim 29 and incorporates the same deficiencies.

Claims 31-33 each recite the limitation "the unstrained amount of web material" in line 1. There is insufficient antecedent basis for this limitation in the claim. These claims should depend from claim 29 instead of claim 28.

Claim 34 recites the limitation "the parameter of the tension zone" in line 1. There is insufficient antecedent basis for this limitation in the claim. This claim should depend from claim 29 instead of claim 28.

Claim 35 depends from claim 34 and incorporates the same deficiencies.

Claim 38 recites the limitation "the tension zone" in line 3. There is insufficient antecedent basis for this limitation in the claim. This claim should depend from claim 37 instead of claim 36.

Claims 39-43 depend from claim 38 and incorporate the same deficiencies.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 1-3, 8, 28, 36, and 37 are rejected under 35 U.S.C. 102(b) as being anticipated by Sakai et al. Sakai et al. discloses a method comprising: calculating tension for a segment of a web material in real time, the segment of the web material being a tension zone; and controlling a first actuator control signal for a first roller as a function of the tension in the tension zone; controlling a second actuator control signal for a second roller as a function of the tension in the tension zone; wherein the tension zone corresponds to the segment of web material between the first roller and the second roller; the first roller being driven at a first desired velocity by the first actuator control signal; and the second roller being driven at a second desired velocity by the second actuator control signal; receiving a position signal from a position sensor, wherein the position signal indicates a position of the first roller; and calculating the tension in real-time as a function of the position signal (e.g., col. 8 line 61 – col. 9 line 12, Fig. 2);

A computer-readable medium comprising instructions for causing a programmable processor to: receiving a first position corresponding to a position of a first roller; receiving a second position corresponding to position of a second roller; and calculating a parameter for a segment of web material in real time using the first position and the second position (e.g., col. 8 line 61 – col. 9 line 12, Fig. 2);

A system comprising: at least two position sensors generating respective position signals, each position sensor being coupled to a respective roller in a web transport system; a controller module that calculates a tension for web material based upon the two position signals, and outputs an actuator control signal based upon the calculated tension; wherein the controller module calculates the tension for the web material in a tension zone formed by the rollers coupled to the at least two position sensors (e.g., col. 8 line 61 – col. 9 line 12, Fig. 2).

7. Claims 14, 16-18, 20, and 21 are rejected under 35 U.S.C. 102(e) as being anticipated by Okamura U.S. Patent No. 4,736,900. Okamura discloses a method comprising: receiving a position signal indicating a position of a first roller in a system for transporting a web material; calculating a change in length of the web material within a zone defined by the first roller and a second roller based on the position signal; and calculating a property of the web material based on the changed in length, and outputting the calculated property of the web material; controlling an actuator control signal based on the calculated property of the web material; wherein the actuator control signal varies the velocity of the first roller; wherein the actuator control signal varies the velocity of the second roller; wherein calculating a change in length comprises: determining a change in position of the first roller over a period of time based on the position signal; and calculating the change in length of the web material within the zone based on the determined change in position of the first roller; wherein the property comprises one of a tension of the web material, a modulus for the web

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material, a width of the web material, or a thickness of the web material (e.g., claims 1, 2, 10, 19; Okamura calculates the tension as a function of the diameter of the tape wound on the first reel. The diameter is a function the length of tape moved, which is a function of the rotation or position of the first reel.).

8. Claims 14, 16-18, 20, and 21 are additionally rejected under 35 U.S.C. 102(e) as being anticipated by Wood U.S. Patent No. 6,715,708. Wood method comprising: receiving a position signal indicating a position of a first roller in a manufacturing system for a web material; calculating a change in length of the web material within a zone defined by the first roller and a second roller based on the position signal; and calculating a property of the web material based on the changed in length, and outputting the calculated property of the web material; controlling an actuator control signal based on the calculated property of the web material; wherein the actuator control signal varies the velocity of the first roller; wherein the actuator control system varies the velocity of the second roller; wherein the property comprises one of a tension of the web material, a modulus for the web material, a width of the web material, or a thickness of the web material; wherein calculating a change in length comprises: determining a change in position of the first roller over a period of time based on the position signal; and calculating the change in length of the web material within the zone based on the determined change in position of the first roller; wherein the property comprises one of a tension of the web material, a modulus for the web material, a width

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of the web material, or a thickness of the web material (e.g., col. 3 lines 29-46, col. 4 lines 6-21, col. 4 lines 48-64, col. 5 lines 13-18, col. 6 lines 7-18, claims 1-8).

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 15 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Okamura as applied to claims 14 and 16 above, and further in view of McGowan et al. U.S. Patent No. 5,809,917. Okamura does not appear to explicitly disclose displaying the calculated property to an operator or varying a span length between the first roller and the second roller. However, McGowan et al. discloses a system for controlling tension of a primary backing material in a tufting machine, comprising an LCD for displaying measured tension to an operator (e.g., col. 5 lines 50-52) and means for varying a span length between a first roller and a second roller (e.g., col. 6 lines 48-60). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Okamura with McGowan et al. since McGowan et al. teaches that varying a span length between two rollers can be used to control the tension of a material contained between the two rollers, thus eliminating the need to control multiple motor speed in order to control the tension.

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11. Claims 15 and 19 are additionally rejected under 35 U.S.C. 103(a) as being unpatentable over Wood as applied to claims 14 and 16 above, and further in view of McGowan et al. U.S. Patent No. 5,809,917. Wood does not appear to explicitly disclose displaying the calculated property to an operator or varying a span length between the first roller and the second roller. However, McGowan et al. discloses a system for controlling tension of a primary backing material in a tufting machine, comprising an LCD for displaying measured tension to an operator (e.g., col. 5 lines 50-52) and means for varying a span length between a first roller and a second roller (e.g., col. 6 lines 48-60). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Wood with McGowan et al. since McGowan et al. teaches that varying a span length between two rollers can be used to control the tension of a material contained between the two rollers, thus eliminating the need to control multiple motor speed in order to control the tension.

Allowable Subject Matter

12. Claims 4-7, 9-13, 22-27, 29-35, and 38-43 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten to overcome any rejection(s) under 35 U.S.C. 112, 2nd paragraph and 35 U.S.C. 101, set forth in this Office action, and to include all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: The prior art fails to teach the features of claims 4, 22, 29, and 38, in combination with the remaining features and elements of the claimed invention.

Regarding claim 4, Sakai et al. 5,754,361 discloses that the tension of the tape is calculated based on the rotational speeds of the two reels (e.g., 9 lines 1-11). Given a rotational speed of a reel, one of ordinary skill in the art would be able to obtain the length of tape traveling over the reel through well-established equations known in the art.

Furthermore, Okamura U.S. Patent No. 4,736,900 discloses determining a tension based on a length of tape moved. However, neither of these references, taken alone or in combination, teach "determining an unstrained length of web material added to a tension zone in a time period...and determining the tension in the web material at the end of the time period as a function of the unstrained length of web material added to the tension zone", in combination with the remaining features and elements of the claimed invention. Sakai et al. and Okamura do not disclose that the web material is "unstrained", nor do they disclose that the particular length calculated is a length "added to the tension zone".

Conclusion

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ryan A. Jarrett whose telephone number is (703) 308-4739. The examiner can normally be reached on 10:00-6:30 M-F.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Leo Picard can be reached on (703) 308-0538. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Ryan A. Jarrett
Examiner
Art Unit 2125

9/16/04



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